

Gartner Top Strategic Technology Trends for 2021



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Trend 1: Internet of Behaviors

As demonstrated by the COVID-19 protocol monitoring example, the IoB is about using data to change behaviors. With an increase in technologies that gather the “digital dust” of daily life — data that spans the digital and physical worlds — that information can be used to influence behaviors through feedback loops.

For example, for commercial vehicles, telematics can monitor driving behaviors, from sudden braking to aggressive turns. Companies can then use that data to improve driver performance, routing and safety.

IoB does have ethical and societal implications depending on the goals and outcomes of individual uses

The IoB can gather, combine and process data from many sources including: Commercial customer data; citizen data processed by public-sector and government agencies; social media; public domain deployments of facial recognition; and location tracking. The increasing sophistication of the technology that processes this data has enabled this trend to grow.

IoB does have ethical and societal implications depending on the goals and outcomes of individual uses. The same wearables that health insurance companies use to track physical activities to reduce premiums could also be used to monitor grocery purchases; too many unhealthy items could increase premiums. [Privacy laws](#), which vary from region to region, will greatly impact the adoption and scale of the IoB.

Trend 2: Total experience

Total experience combines multi-experience, customer experience, employee experience and user experience to transform the business outcome. The goal is to improve the overall experience where all of these pieces intersect, from technology to employees to customers and users.

This trend enables organizations to capitalize on COVID-19 disruptors

Tightly linking all of these experiences — as opposed to individually improving each one in a silo — differentiates a business from competitors in a way that is difficult to replicate, creating sustainable competitive advantage. This trend enables organizations to capitalize on COVID-19 disruptors including remote work, mobile, virtual and distributed customers.

For example, one telecommunications company transformed its entire customer experience in an effort to improve safety and satisfaction. First, it deployed an appointment system via an existing app. When customers arrived for their appointment and came within 75 feet of the store, they received two things: 1) A notification to guide them through the check-in process and 2) an alert letting them know how long it would be before they could safely enter the store and maintain social distance.

The company also adjusted its service to include more digital kiosks and enabled employees to use their own tablets to co-browse customers' devices without having to physically touch the hardware. The result was a safer, more seamless and integrated overall experience for customers and employees.

Trend 3: Privacy-enhancing computation

Privacy-enhancing computation features three technologies that protect data while it's being used. The first provides a trusted environment in which sensitive data can be processed or analyzed. The second performs processing and analytics in a decentralized manner. The third encrypts data and algorithms before processing or analytics.

This trend enables organizations to collaborate on research securely across regions and with competitors without sacrificing confidentiality. This approach is designed specifically for the increasing need to share data while maintaining privacy or security.

Trend 4: Distributed cloud

Distributed cloud is where cloud services are distributed to different physical locations, but the operation, governance and evolution remain the responsibility of the public cloud provider.

Distributed cloud is the future of cloud

Enabling organizations to have these services physically closer helps with low-latency scenarios, reduces data costs and helps accommodate laws that dictate data must remain in a specific geographical area. However, it also means that organizations still benefit from public cloud and aren't managing their own private cloud, which can be costly and complex. Distributed cloud is the future of cloud.

Read more: [The CIO's Guide to Distributed Cloud](#)

Trend 5: Anywhere operations

An anywhere operations model will be vital for businesses to emerge successfully from COVID-19. At its core, this operating model allows for business to be accessed, delivered and enabled anywhere — where customers, employers and business partners operate in physically remote environments.

The model for anywhere operations is “digital first, remote first;” for example, banks that are mobile-only, but handle everything from transferring funds to opening accounts with no physical interaction. Digital should be the default at all times. That's not to say physical space doesn't have its place, but it should be digitally enhanced, for example, contactless check-out at a physical store, regardless of whether its physical or digital capabilities should be seamlessly delivered.

Trend 6: Cybersecurity mesh

Cybersecurity mesh is a distributed architectural approach to scalable, flexible and reliable cybersecurity control. Many assets now exist outside of the traditional security perimeter. Cybersecurity mesh essentially allows for the security perimeter to be defined around the identity of a person or thing. It enables a more modular, responsive security approach by centralizing policy orchestration and distributing policy enforcement. As perimeter protection becomes less meaningful, the security approach of a “walled city” must evolve to current needs.

Read more: [Gartner Top 9 Security and Risk Trends for 2020](#)

Trend 7: Intelligent composable business

An intelligent composable business is one that can adapt and fundamentally rearrange itself based on a current situation. As organizations [accelerate digital business strategy](#) to drive faster digital transformation, they need to be agile and make quick business decisions informed by currently available data.

To successfully do this, organizations must enable better access to information, augment that information with better insight and have the ability to respond quickly to the implications of that insight. This will also include increasing autonomy and democratization across the organization, enabling parts of the businesses to quickly react instead of being bogged down by inefficient processes.

Trend 8: AI engineering

A robust AI engineering strategy will facilitate the performance, scalability, interpretability and reliability of AI models while delivering the full value of AI investments. [AI projects](#) often face issues with maintainability, scalability and governance, which makes them a challenge for most organizations.

Read more: [2 Megatrends Dominate the Gartner Hype Cycle for Artificial Intelligence, 2020](#)

AI engineering offers a pathway, making AI a part of the mainstream DevOps process rather than a set of specialized and isolated projects. It brings together various disciplines to tame the AI hype while providing a clearer path to value when operationalizing the combination of multiple AI techniques. Due to the governance aspect of AI engineering, [responsible AI is emerging](#) to deal with trust, transparency, ethics, fairness, interpretability and compliance issues. It is the operationalization of AI accountability.

Trend 9: Hyperautomation

Hyperautomation is the idea that anything that can be automated in an organization should be automated. Hyperautomation is driven by organizations having legacy business processes that are not streamlined, creating immensely expensive and extensive issues for organizations.

Many organizations are supported by a “patchwork” of technologies that are not lean, optimized, connected, clean or explicit. At the same time, the acceleration of digital business requires efficiency, speed and democratization. Organizations that don’t focus on efficiency, efficacy and business agility will be left behind.

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